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THE

SOUTHERN SKIES

A PLAIN AND EASY GUIDE

TO

THE CONSTELLATIONS OF THE SOUTHERN HEMISPHERE

SHOWING, IN TWELVE MAPS, THE POSITION OF THE PRINCIPAL STAR-GROUPS NIGHT AFTER NIGHT THROUGHOUT THE YEAR, WITH AN INTRODUCTION AND A SEPARATE EXPLANATION OF EACH MAP

True for every Year

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BY

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GUIDE

TO THE

CONSTELLATIONS OF THE SOUTHERN HEMISPHERE.

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ON THE USE OF THE MAPS.

THE learner who endeavours to make use of an ordinary Star Atlas, to compare the stars as seen in the heavens with the constellations as shown on the maps, has several difficulties to contend with. He cannot at once find the particular maps or parts of maps which correspond to the stars above the horizon at the time of observation. When the maps are found they need to be turned round, sometimes to one side and sometimes to the other, so as to correspond with the stars as seen in the heavens. When this has been successfully done, the number of stars given and the meridian lines and outlines of constellations all tend to confuse the learner, and to make it difficult to him to match the points of light seen in the heavens with the stars of various magnitudes as shown in his Star Atlas.

The maps given in this little volume are constructed so that each one of them shows all the constellations which are above the horizon at the times mentioned below the maps. The learner has only to turn to the proper map, which may be found at once by reference to the months and hours printed below the maps, and he will find what constellations are above the horizon at the time, and towards what point of the compass they must be looked for. The distance from the edge of the map indicates their height above the horizon; it being remembered that the centre of the map corresponds to the zenith, or the point vertically overhead, and the circumference of the map represents the natural horizon. If the learner holds one of these maps over his head, so as to look vertically upwards at it, the different parts of the horizon marked in around the circumference being turned towards the proper compass points, he will see the same view of the heavens as he would if he were to lie on his back

and look upwards at the sky, only that the map is a planisphere and the sky is a hemisphere. Though this illustration serves to indicate the nature of the maps, the actual mode of using them is more convenient.

The observer should first make himself acquainted with the parts of his horizon which correspond with the various points of the compass. This in the Southern hemisphere is an easy matter, for the longer bar of the Southern Cross points nearly to the South Pole, which is a point in the heavens not marked by any brilliant star, but situated about four and a half cross-lengths from the foot of the Cross.

More accurately the Southern Pole lies on the line joining the star α, which forms the foot of the cross, and the star β of the constellation *Hydrus*, and is about one-third of the distance along this line from the star β.

The Southern Cross may be looked upon as the hour-hand of a great clock, which goes round once in twenty-four hours, moving in the same direction as the hands of a clock; unlike the Great Bear and other circumpolar constellations in the Northern heavens, which appear to go round the Northern Pole in a direction contrary to the hands of a clock, a difference easily accounted for when it is remembered that the observer's face, when looking at the North Pole, is turned in a contrary direction to the face of an observer in the Southern hemisphere looking at the South Pole.

For the purpose of using the maps, the above method of finding the South Pole is sufficiently accurate, but, if the observer prefer it, he can determine the South point conveniently at noon, by setting up a plumb-line in the sunlight and noting the direction in which the shadow falls. But this must be done at true noon; that is, when the sun is due South, and this does not agree with clock-time. However, if the observer notices that from December 25th to April 15th he must make the observation in the afternoon, thence to June 14th in the forenoon, thence to August 1st in the afternoon, thence to December 25th in the forenoon—the time before or after noon being taken from Whitaker's or the Nautical Almanack,—he can learn the South point on any day of the year with the utmost nicety. When once this observation has been made, he can note what objects on his horizon lie towards the different

points of the compass, and from that time he can use the accompanying maps without reference to the position of the Southern Cross.

It will be seen that the maps have neither top, bottom, nor sides; each map may be held with any part of the circumference downwards; then the centre of the map is to be looked upon as the top for that part of the circumference which is turned downwards. Thus, if on any night he wishes to learn what are the stars towards the East, he will look for the map corresponding to that night, at the hour named. The stars towards the East will be those shown between the centre of the map and the circumference on the left hand. Holding the left-hand side of the map in his hand, with the centre uppermost, he will have before him the constellations which will be seen on looking to the East.

It will be noticed that the maps are arranged in a certain order, but there is really no first or last map in the series. The map numbered I. follows the map numbered XII. in exactly the same manner that the latter follows the map numbered XI. The maps form a circular series, representing the stars as seen at intervals of two hours apart. The only reason for numbering them as at present is that the map numbered I. happens to exhibit the aspect of the sky at a convenient hour on the night of January 1st. It will be found that the dates follow on at intervals of three or four days right round the year. It may be mentioned that the dates have not been taken so as to fall regularly round the year, but they correspond to the variations due to the earth's variable motion round the sun.

An observer who wishes to become an astronomer will, of course, not rest satisfied by learning only the principal stars shown in these maps. He will, by means of regular star maps and catalogues, explore all the constellations, having first learned their position and general appearance from the accompanying maps.

The student should remember that the planets Venus, Mars, Jupiter, and Saturn will at times appear amongst the constellations. They will usually be recognized at once by their superior light and by the steadiness with which they shine. As they never appear save in the Zodiacal constellations, it becomes very easy to recognize them.

The following Table exhibits the names of (all) the stars of the first three magnitudes to which astronomers have given names, at least all those whose names are in common use.

1	α	Andromeda *Alpheratz.*	16	α	Columbæ *Phact.*	31	α	Ophiuchi *Ras Alhague.*
	β	——— *Mirach Mizar.*	17	α	Coronæ *Alphecca.*		β	——— *Cebalrai.*
	γ	——— *Almach.*	18	α	Corvi *Alchiba.*	32	β	Orionis *Rigel.*
2	α	Aquarii *Sadalmelik.*		δ	——— *Algores.*		γ	——— *Bellatrix.*
	β	——— *Sadalsund.*	19	α	Crateris *Alkes.*		δ	——— *Mintaka.*
	δ	——— *Skat.*	20	β	Cygni *Albireo.*		ε	——— *Alnilam.*
3	γ	Aquilæ *Tarazed.*		α	——— *Arided Deneb Adige.*		α	——— *Betelgeux.*
	α	——— *Altair.*		π^1	——— *Azelfafage*	33	ε	Pegasi *Enif.*
	β	——— *Alshain.*	21	α	Delphini *Svalocin.*		ζ	——— *Homan.*
4	α	Argûs *Canopus.*	22	α	Draconis *Thuban.*		β	——— *Scheat.*
5	γ	Arietis *Mesartim.*		β	——— *Alwaid.*		α	——— *Markab.*
	β	——— *Sheratan.*		γ	——— *Etanin.*		γ	——— *Algenib.*
	α	——— *Hamal.*	23	α	Eridani *Achernar.*	34	β	Perseï *Algol.*
6	α	Aurigæ *Capella.*		γ^1	——— *Zaurac.*		α	——— *Mirfak.*
	β	——— *Menkalinan.*		β	——— *Cursa.*	35	α	Piscis *Formalhaut.*
7	η	Boötis *Muphrid.*	24	γ	Geminorum *Alhena.*	36	α	Piscium *Kaitain.*
	α	——— *Arcturus.*		ε	——— *Mebsuta.*	37	ε	Sagittarii *Kaus Australis.*
	ε	——— *Izar Mizar Mirach Pulcherrima.**		δ	——— *Wasat.*	38	α	Scorpionis *Antares, Cor Scorpionis.*
				α^2	——— *Castor.*	39	α	Serpentis *Unukalhai.*
	β	——— *Nekkar.*		β	——— *Pollux.*	40	η	Tauri *Alcyone* (Pleiad).
8	α	Canum Ven. *Cor. Caroli.*	25	κ	Herculis *Marsic.*		α	——— *Aldeboran.*
9	β	Canis *Mirzam.*		β	——— *Korneforos.*		β	——— *Nath.*
	α	——— *Sirius.*		α	——— *Ras Algethi.*	41	ι	Ursæ *Talitha.*
10	β	Canis Minoris *Gomeisa.*	26	α	Hydræ *Alphard, Cor Hydra.*		α	——— *Dubhe.*
	α	——— ——— *Procyon.*	27	α	Leonis *Regulus, Cor Leonis.*		β	——— *Merak.*
11	α^2	Capricorni *Secunda Giedi.*		γ^1	——— *Algeiba.*		γ	——— *Phecda.*
	δ	——— *Deneb Algiedi.*		δ	——— *Zosma.*		ε	——— *Alioth.*
12	β	Cassiopeiæ *Chaph.*		β	——— *Deneb Aleet Denebola.*		ζ	——— *Mizar.*
	α	——— *Schedar.*			*Deneb.*		80	——— *Alcor.*
13	α	Cephei *Alderamin.*	28	α	Leporis *Arneb.*		η	——— *Alkaid Benetnasch.*
14	β	Cephie *Alphirk.*	29	β	Libræ *Zuben el Chamali.*	42	α	Ursæ Minoris *Polaris.*
	γ	——— *Errai.*		α	——— *Zuben el Genubi.*		β	——— ——— *Kochab.*
15	β	Ceti *Diphda.*		γ	——— *Zuben Hakrabi.*	43	β	Virginis *Zavijava.*
	ζ	——— *Baten Kaitos.*	30	α	Lyræ *Vega.*		ε	——— *Vindemiatrix.*
	o	——— *Mira.*		β	——— *Sheliak.*		α	——— *Spica, Azimech.*
	α	——— *Menkar.*		γ	——— *Sulaphat.*			

* A name given by modern astronomers to express the extreme beauty of this double star, the components of which are a beautiful orange and green.

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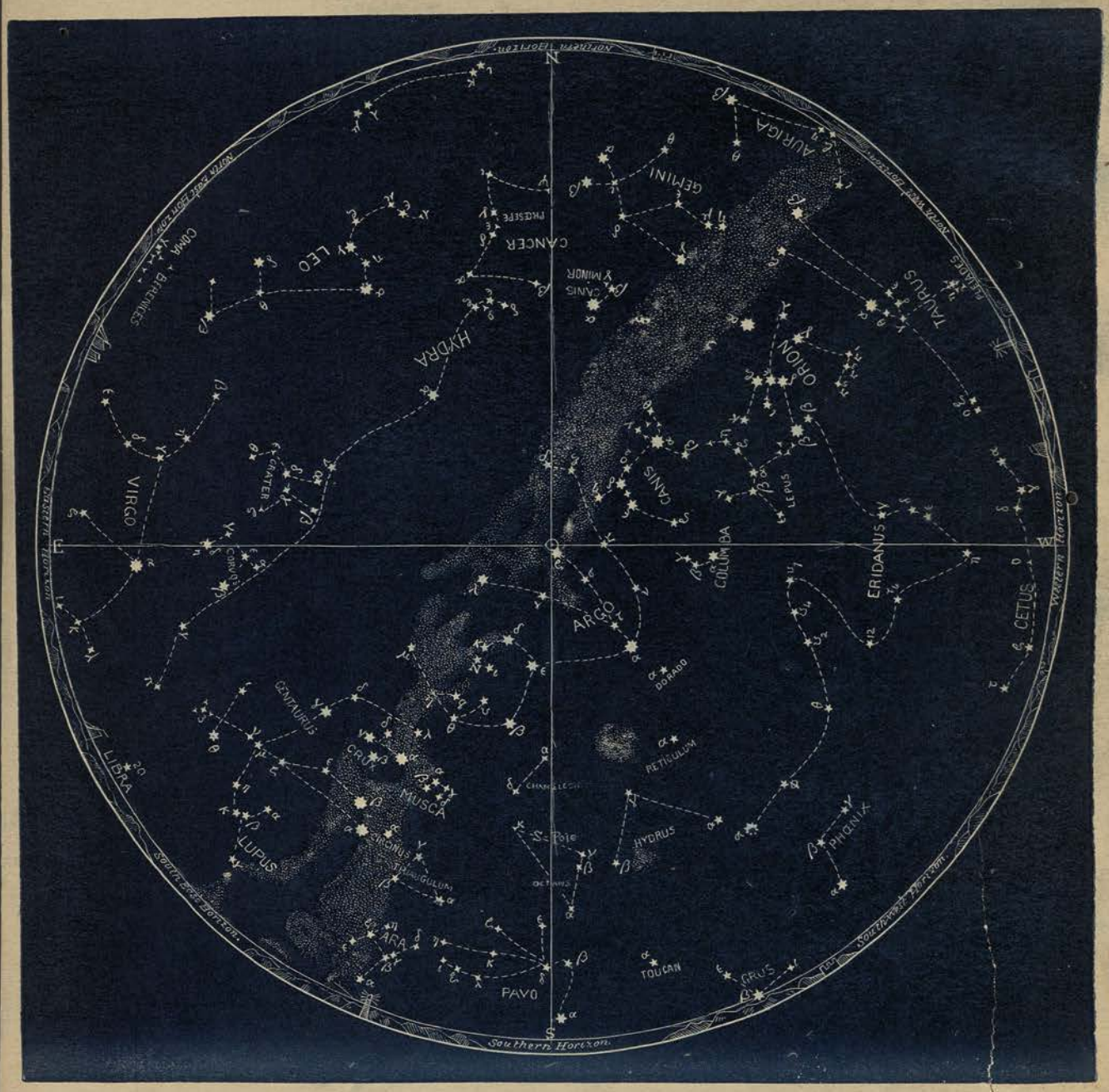
THE SOUTHERN SKIES.

MAP I.—For JANUARY and FEBRUARY.



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, Jan. 7.	At 11 o'clock, night, Feb. 7.	At 9 o'clock, night, Mar. 8.
,, 12.30 ,, ,, Jan. 15	,, 10.30 ,, ,, Feb. 14.	,, 8.30 ,, ,, Mar. 15.
,, Midnight, Jan. 23.	,, 10 ,, ,, Feb. 22.	,, 8 ,, ,, Mar. 23.
,, 11.30 o'clock, night, Jan. 30.	,, 9.30 ,, ,, Mar. 1.	,, 7.30 ,, ,, Mar. 30.

STAR MAGNITUDES.

First ... ... Second ... .. Third ... .. Fourth ... ... Fifth ... ...

MAP I.

The familiar group, the Southern Cross, must be first found, due south-east, and half-way between the horizon and the point overhead, the longer bar of the Cross being horizontal. The Pole, unmarked by any star, is pointed to by this longer axis of the Cross, and lies about four and half cross-lengths from its southern extremity, marked by the bright star Alpha. On this line, one cross-length from the Cross, note Musca the Southern Fly. Below the Cross are the two bright stars, Alpha and Beta of the Centaur, and the figure of the Centaur can be seen extending eastwards towards the head, and round the Cross to the hind feet. Triangulum, the Southern Triangle (much finer than the northern one), is below the Fly, and Ara the Altar below the Triangle close to the horizon. On its right, due south, is Pavo the Peacock, standing proudly on his head.

Passing beyond the Centaur, eastwards, we find Virgo low down due east, the bright Spica being conspicuous. Above, reaching aslant from low down south of east to half-way up nearly due north, we see the winding Hydra, looking less like the conventional sea-serpent than in our northern skies, so far as his head is concerned; but if Crater and Corvus, the Cup and Crow, be regarded as representing flippers, he makes a fine celestial picture of a dragon-like reptile. Above the north-eastern horizon is the Lion, and Cancer is nearly due north.

West of north we find Canis Minor, with the bright star Procyon; below it is Gemini, the constellation of the Twins, heels highest, and farther west. West of north-west is Taurus, with the bright Aldeboran (the Pleiades close to the horizon). Above is Orion, the Giant Hunter, none the worse for being inverted, but less giant-like than when due north, because bowed over towards his setting-place in the west. Above him is Canis Major, with Sirius shining resplendently high up in the north-west. Lepus and Columba, the Hare and Dove, need not detain us, nor the half-set sea-monster Cetus, due west.

Eridanus, the River, ranges from Orion, near Rigel (the right foot of the giant as seen in the northern hemisphere, but the left shoulder in the southern skies), windingly athwart the west and south-west to Alpha, the bright Achernar. The Phœnix is low down in the south-west, and between the south-west and the south we see the small constellations, Dorado the Sword-fish, Reticulum the Net, Hydrus the Water-snake, and Toucan. But the chief interest of this part of the skies resides in the Magellanic Clouds, the larger above the smaller, high up, somewhat west of south.

The region overhead is occupied by the largest of all constellations, the great Ship Argo.

For London and all places in about latitude 48° to 55° north, we have along the horizon from east (E), through south (the centre of the map), to west (W), the constellations Virgo (only half seen), Spica being still below the horizon, Crater, Hydra extending his head high up in the southern skies; a small part of the Poop of Argo due south; Canis Major somewhat west of south; Lepus, south-west; part of Eridanus, and the head of Cetus due west. Above Argo, nearly due south, we

see Cancer on the left and Canis Minor on the right, with Gemini above, high up towards the zenith (N). The Lion is in the south-east, high up, Orion in the south-west, beginning to bow over towards the west, and facing the Bull, half-way up in the west.

For New York and all places in about latitude 34° to 42° north, we have the same constellations along the horizon from east (E), through south, to west (W); but they are raised higher, and one or two small groups are above the horizon, which in England are below it. Spica, the whole of Corvus, and Columba are thus seen.

For latitudes farther south the method described on pages 21 can be applied, showing the constellations below the line E O W rising higher and higher above the southern horizon the farther south the observer is; but E and W always the true east and west points.

We find the Cross a little south of south-east, the longer axis pointing slightly upwards to the Pole three cross-lengths from the bright Alpha, passing Musca the Southern Fly. Lower down, and farther south, are the Triangle and Ara the Altar, the latter only half visible above the horizon, nearly due south. Below Musca we see the bright fore-feet stars, Alpha and Beta of the Centaur, and we trace the stars of this fine constellation round Crux, the back of the Centaur horse being south-east. Above, extending nearly to the point overhead, is the great constellation Argo the Ship, Canopus being close to the Zenith. From the horizon, a little east of south-east to half-way up due east, and beyond past the north-east, there runs that singular tract of the heavens almost blank of naked-eye stars, which forms almost as striking a feature of the southern skies as the rich region from the Centaur over Argo and Canis Major to Orion.

Parallel to both the rich tract and the barren tract runs the length of Hydra, from east-south-east to south, and thence to north-east, where the Sea Serpent's head is seen nearly half-way up. Low down in the north-east is part of Leo, with the bright Regulus; next Cancer, below and northward of Hydra's head; and next, reaching nearly to the north, the Twins, Gemini. Half-way up north-north-east is Canis Minor with the bright Procyon; and nearly overhead, filling up most of the north-east quadrant, is Canis Major, with the brilliant Sirius.

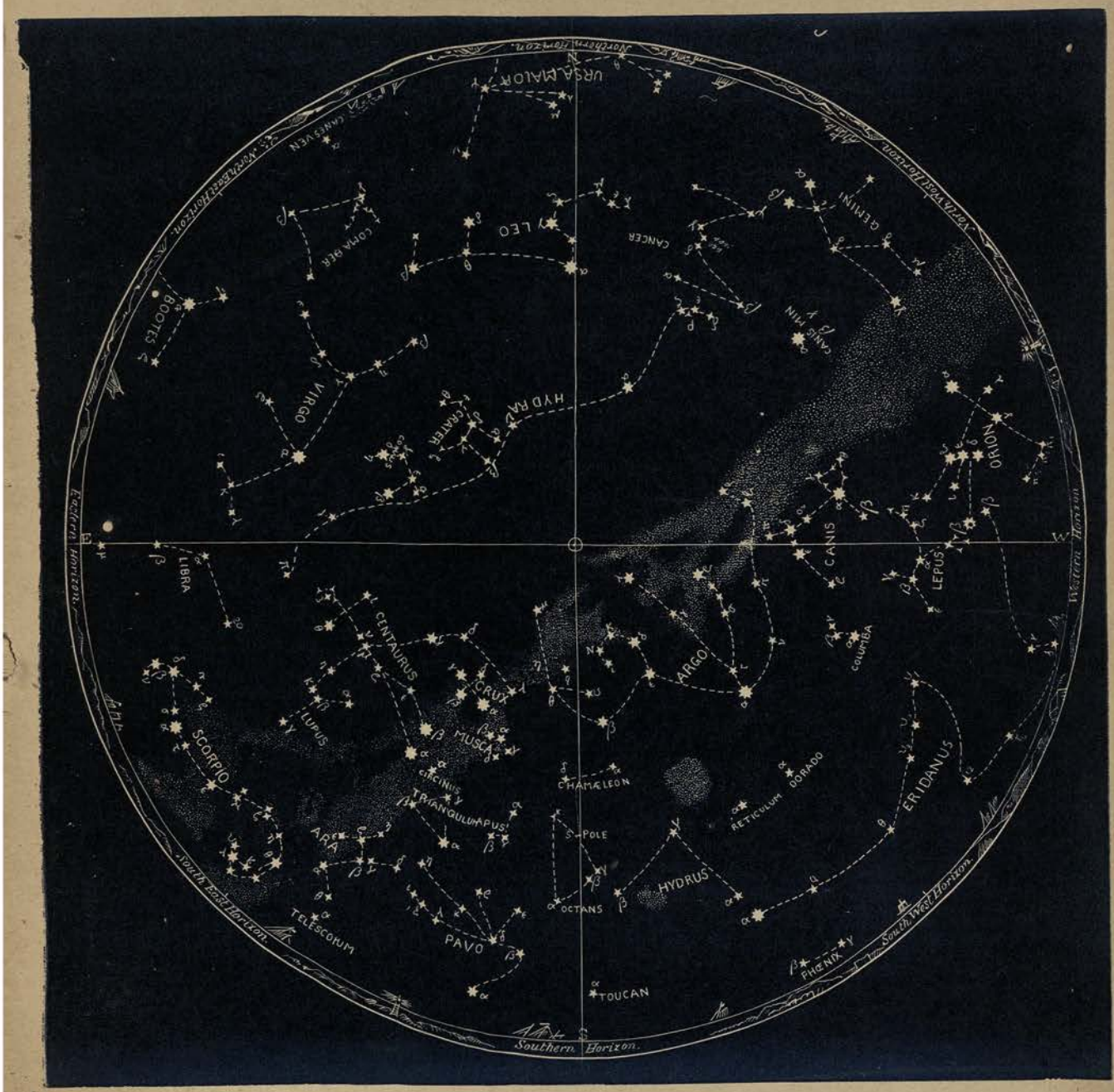
Low down in the north, a little westerly, is part of Auriga. Part of Perseus is seen in the west-north-west. Above is Taurus the Bull, with the Pleiades and Aldebaran.

MAP II.

In the north is the Great Bear, upside down, only his feet appearing above the horizon. Above him are the two Lions (Leo and Leo Minor). The Lesser Lion is next to the Great Bear, the constellation Leo stretches from Virgo to Cancer. Between the Lion and the point overhead is the straggling constellation Hydra, which stretches nearly parallel to the Milky Way from Cancer to Libra.

THE SOUTHERN SKIES.

MAP II.—For JANUARY, FEBRUARY, and MARCH. 5



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning,	Feb. 7.	At 11 o'clock, night, Mar. 8.
,, 12.30 ,, ,,	Feb. 14.	,, 10.30 ,, ,, Mar. 15.
,, Midnight.	Feb. 22.	,, 10 ,, ,, Mar. 23.
,, 11.30 o'clock, night,	Mar. 1.	,, 9.30 ,, ,, Mar. 30.

At 9 o'clock, night,	April 7.
,, 8.30 ,, ,,	April 15.
,, 8 ,, ,,	April 23.
,, 7.30 ,, ,,	April 30.

STAR MAGNITUDES.

First ... ... Second ... ... Third ... ... Fourth ... ... Fifth ... ...

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THE SOUTHERN SKIES.

MAP III.—For FEBRUARY, MARCH, and APRIL.

THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, Mar. 8.	At 11 o'clock, April 7.	At 9 o'clock, May 7.
,, 12.30 ,, ,, Mar. 16.	,, 10.30 ,, April 15.	,, 8.30 ,, May 15.
,, Midnight, Mar. 23.	,, 10 ,, April 22.	,, 8 ,, May 22.
,, 11.30 o'clock, night, Mar. 30.	,, 9.30 ,, April 29.	,, 7.30 ,, May 29.

STAR MAGNITUDES.

First ... ... ✸ Second ... ... ✸ Third ... ... ★ Fourth ... ... ✦ Fifth ... ... ▲

In the north-west, near the horizon, is the constellation Gemini (the Twins), with the two bright stars Castor and Pollux nearly vertically one above the other. A little higher and more to the west is the bright star Procyon in Canis Minor. Between the Lesser Dog and the Lion lies the constellation of the Crab. Westward of Procyon we cross the rich region of the Milky Way, and a little to the north of west, near to the horizon, is the brilliant constellation Orion. The three stars of the Giant's Belt are in a nearly vertical line, which points to Sirius above them, the brightest star in the heavens.

Due west and a little below Sirius is the constellation Lepus the Hare; a little to the south of Lepus and somewhat higher above the horizon is the small constellation Columba the Dove; and higher up, reaching nearly to the zenith, is the great constellation Argo. To the south-west, half-way between the zenith and the horizon, are the small constellations of Reticulum and Dorado, and a little to the south of these are the Magellanic Clouds separated by Hydrus the Water-snake. Along the south-western horizon from west to south-west by south stretches the straggling constellation of Eridanus, the River. Nearly due south and near the horizon is Toucan.

A little further to the east is Pavo the Peacock, with its head close to the horizon. Further east still are the small constellations Telescopicum and Aro. Above them lie the Triangle, the Fly, and the Southern Cross, on the rich region of the Milky Way. Further east is the great constellation of the Centaur, and along the south-eastern horizon lies the rich constellation Scorpio, with its tail towards the Telescope and its head towards Libra (the Scales), which lie due east near to the horizon. A little further north is Boötes, clearly marked by the bright star Arcturus.

MAP III.

The Southern Cross is now almost due south, Musca being just below; a little to the west and lower down is Chameleon, below Hydrus and the smaller Magellanic Cloud; to the left is Octans, low down is Toucan, and to the east is Indus, above is Pavo. From the south-eastern horizon to the zenith is a very rich region; just above the horizon is Sagittarius with Corona Australis just above; then α of Telescopium. Ara is still higher up, and to the right and a little above is Triangulum, above is Circinus, and farther to the right is Apus; Centaurus is almost overhead, his head being due east; Lupus is just below the Centaur. Due east, nearly half-way up, is the head of Scorpio; his body extends to the south. Ophiuchus straggles across the eastern horizon. Libra is half-way up in the east.

Part of Hercules is just above the horizon a little to the north of east; and just above the north-eastern horizon is Corona Borealis. Serpens is above and extends to the east. Boötes is on the horizon a little to the north, and extends upwards, the bright star α being conspicuous. Near the northern horizon is Canes Venatici, above is Coma Berinices, and higher up is Virgo. Hydra stretches across the sky near to the zenith. Corvus and Crater are high up, lying between Hydra and Virgo.

A little to the west on the northern horizon are a few stars of Ursa Major, and above is Leo, the star α being the brightest in this part of the heavens. One star of Gemini is just above the north-western horizon, Cancer is above, the head of Hydra is above Cancer, and to the west Canis Minor with the bright Procyon. Looking now to the west from overhead there are no stars visible to the north, but a rich part of the Milky Way is on the right, with the great Argo high up; then Canis Major low down in the west, and Lepus just above the horizon. Eridanus winds along the horizon from near Lepus nearly to the south, where the bright star Achernar shines just above the horizon; and Hydrus is just above it, with the smaller Magellanic Cloud. To the west of Hydrus and a little above is the larger Magellanic Cloud, below is Reticulum, and farther west Dorado. Farther west, near Canis Major, is Columba.

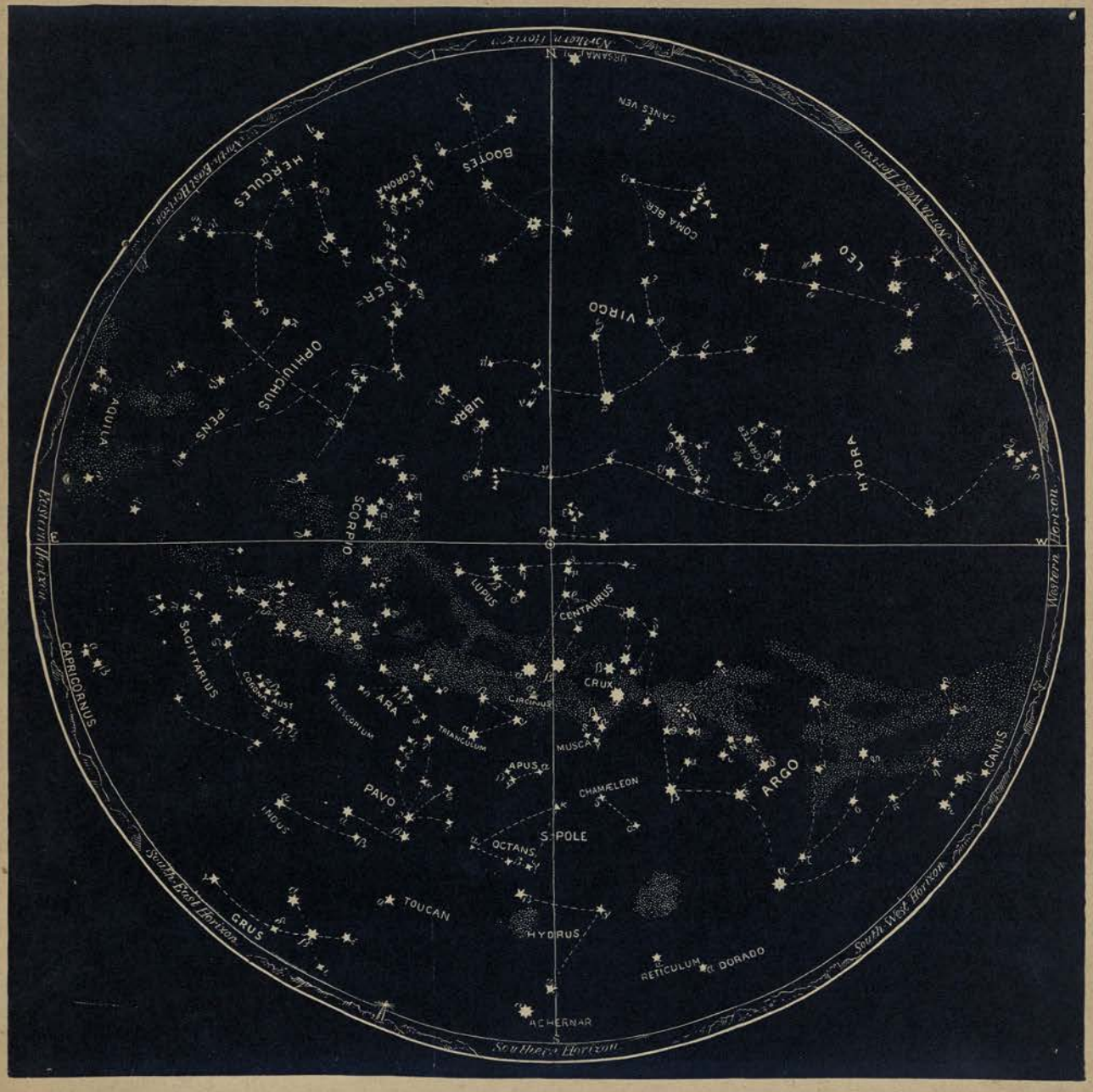
MAP IV.

THE Southern Cross has passed to the west of south, and the bright fore-feet of the Centaur are due south now, his head almost directly overhead. A little east of south is Triangulum, almost due south is Apus, then Octans. Just below Octans is β of Hydrus, then the smaller Magellanic Cloud, and low down on the horizon is the bright star Achernar. Along the horizon to the east is the constellation Grus; above is Pavo the Peacock, getting more erect; Sagittarius stretches out to the east, and just below him, near the horizon, are α and β of the constellation Capricornus. Above Sagittarius is the tail of Scorpio; the bright red star Antares, which marks his heart, being just a little north of east, and the three bright stars of his head a little farther north. Near the horizon is Aquila; stretching across Ophiuchus is Serpens, with its head just above Corona. Below Serpens and reaching to the horizon is Hercules. Almost due north from the horizon, about half-way up, we find Bootes, above him Libra.

Just above the horizon a little west of north is one of the bright stars of Ursa Major; higher up and a little more west is Coma Berinces, above is Virgo; below Virgo and reaching to the horizon is Leo. Hydra with Corvus and Crater occupy the entire space from a little east of north to the horizon a little north of west. Due west and south of west there are hardly any stars visible. On the horizon to the south-west are a few stars of Canis, above is Argo reaching almost to the foot of the Centaur. Below Crux is Musca, then Chameleon, lower down is the larger Magellanic Cloud, and near the horizon are Reticulum and Dorado.

THE SOUTHERN SKIES

MAP IV.—For MARCH, APRIL, and MAY.



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, April 7.	At 11 o'clock, night, May 7.	At 9 o'clock, night, June 7.
,, 12.30 ,, ,, April 14.	,, 10.30 ,, ,, May 15.	,, 8.30 ,, ,, June 14.
,, Midnight, April 22.	,, 10 ,, ,, May 22.	,, 8 ,, ,, June 22.
,, 11.30 o'clock, night, April 30.	,, 9.30 ,, ,, May 30.	,, 7.30 ,, ,, June 30.

STAR MAGNITUDES.

First ... ... Second ... ... Third ... ... Fourth ... ... Fifth ... ...

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THE SOUTHERN SKIES.

MAP V.—For APRIL, MAY, and JUNE.

THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, May 7.	At 11 o'clock, night, June 7.	At 9 o'clock, night, July 7.
,, 12.30 ,, ,, May 15.	,, 10.30 ,, ,, June 14.	,, 8.30 ,, ,, July 14.
,, Midnight, May 22.	,, 10 ,, ,, June 22.	,, 8 ,, ,, July 26.
,, 11.30 o'clock, night, May 30.	,, 9.30 ,, ,, June 30.	,, 7.30 ,, ,, Aug. 3.

STAR MAGNITUDES.

First ... ... Second ... ... Third ... ... Fourth ... ... Fifth ... ...

MAP V.

Looking directly south from the point overhead we first see Triangulum, then Apus, then Octans and the star γ of Hydrus, and just a little to the west Reticulum. Near the horizon to the east are Eridanus just coming into view, and Phœnix; above Eridanus is the smaller Magellanic Cloud. Passing east is Toucan; below Toucan and a little farther east is Grus, and near the horizon Piscis Australis. Above Toucan is Pavo, reaching almost to Ara. Passing from Ara to the eastern horizon we have first Telescopium, Corona, Capricornus and part of Aquarius just on the horizon. Sagittarius is about half-way between the eastern horizon and the zenith. Scorpio winds around, almost overhead, from south of east to a little west of north. On the horizon in the east is Delphinus, above the Dolphin is Aquila; farther along the horizon are visible two stars of Cygnus, then comes Lyra. Hercules stretches from the horizon a little east of north half-way up, then above is Ophiuchus. Serpens straggles along almost due north to Corona, the northern Crown; Bootes is bowed over towards the west, and Coma Berinices is near the horizon; Leo is almost out of sight, only four of the larger stars being visible above the horizon; Virgo stretches away above Leo up to Libra. The head of Hydra has passed out of sight, Corvus and Crater are due west now, Lupus occupies the place just a little south of west overhead, then the Centaur. The Southern Cross now lies as far to the west as it did to the east in Map I., and the longer axis points to the Pole; Musca is a little farther south and east; and farther south is Chameleon. Part of Argo has passed out of sight, but still a large part is visible from Musca and Crux to the horizon. On the horizon a little west of south is Dorado, and above is the larger Magellanic Cloud.

MAP VI.

NEAR the southern horizon, and most conspicuous, is the larger Magellanic Cloud; a little to the south and east is Reticulum, and below Dorado; above and a little east is Hydrus, and the smaller Magellanic Cloud, above them Octans and Pavo; a little east of Pavo is Indus, then half-way to the horizon is Grus. Phœnix is more toward the south, and still further south are the two stars of Eridanus, the upper one, Achernar, being the brightest star visible in that part of the heavens. Low down near the eastern horizon is visible β of Cetus; nearly half-way above is the bright star α Piscis Australis. Overhead in this quadrant are α Telescopium and Corona Australis.

In the next quadrant Sagittarius occupies the entire space overhead; towards the horizon is Capricornus, then Aquarius the water-bearer. Just above the horizon Pisces begins to be visible, and a little farther along the horizon is Pegasus, all except one star being visible. The constellation Cygnus stretches along toward the north, the bright star α being just above the horizon. The little group of the Delphin is nearly half-way up, and above and toward the north is Aquila. Low down to the horizon, a little east of north, is Lyra.

Just on the northern horizon one bright star of Draco is visible. Hercules reaches from the horizon up to Ophiuchus. Bootes is very much bowed over, and stretches along the north-western horizon; above him is Serpens. Virgo is in the west, and above Libra; then Scorpio reaching to the zenith.

Overhead in the last quadrant is part of Scorpio, and a little lower toward the south is Ara the Altar. Toward the west is Lupus, then Centaurus; farther down is the tail of Hydra and Corvus, and on the horizon is Crater. Near the horizon in the south is part of the ship Argo; above is Chameleon; then above, and a little west, is the rich region where are Musca and Crux (the longer axis of the cross being almost at the same altitude as the Southern Pole), Circinus, Apus, and Triangulum lie a little above.

THE SOUTHERN SKIES.

MAP VI.—For MAY, JUNE, and JULY.

THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, June 7.	At 11 o'clock, night, July 7.	At 9 o'clock, night, Aug. 6.
,, 12.30 ,, ,, June 14.	,, 10.30 ,, ,, July 14.	,, 8.30 ,, ,, Aug. 14.
,, Midnight, June 22.	,, 10 ,, ,, July 26.	,, 8 ,, ,, Aug. 22.
,, 11.30 o'clock, night, June 30.	,, 9.30 ,, ,, Aug. 3.	,, 7.30 ,, ,, Aug. 29.

STAR MAGNITUDES.

First ... ... Second ... ... Third ... ... Fourth ... ... Fifth ... ...

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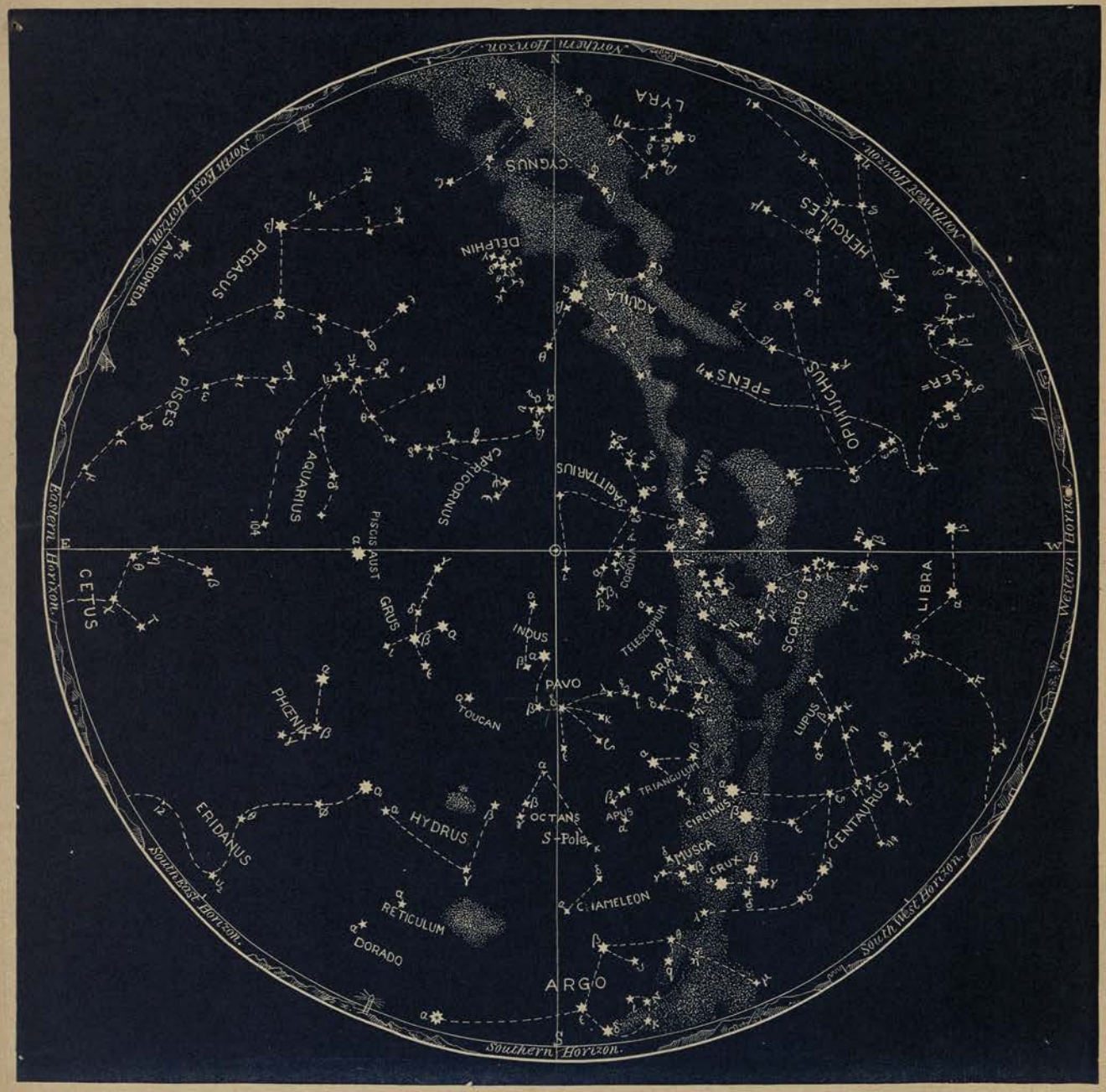
THE SOUTHERN SKIES.

MAP VII.—For JUNE, JULY, and AUGUST.



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, July 7.	At 11 o'clock, night, Aug. 7.	At 9 o'clock, night, Sept. 6.
,, 12.30 ,, ,, July 14.	,, 10.30 ,, ,, Aug. 14.	,, 8.30 ,, ,, Sept. 14.
,, Midnight, July 26.	,, 10 ,, ,, Aug. 22.	,, 8 ,, ,, Sept. 21.
,, 11.30 o'clock, night, Aug. 3.	,, 9.30 ,, ,, Aug. 29.	,, 7.30 ,, ,, Sept. 29.

STAR MAGNITUDES.

First ... ... Second ... .. Third ... .. Fourth ... ... Fifth ... ...

MAP VII.

Pavo, the Peacock, is standing proudly erect now a little to the south from overhead; α of Indus is near the zenith, β being near the bright star which marks the head of Pavo. Toucan is a little to the east. Octans is half-way up from the southern horizon, and a little below and west is Chameleon; lower down on the horizon is part of Argo. The Magellanic Clouds, the smaller above the larger, are conspicuous towards the south. Dorado is near the horizon, and above is Reticulum, then Hydrus, next toward the east is the bright star α of Eridanus, the constellation straggling down to the horizon. Phœnix is half-way up toward the zenith, and a little south of east is Grus. Looking due east is α of Piscis Australis; low down on the horizon is part of Cetus. Piscis extends from the eastern horizon toward the north-east; above it is Aquarius; above Aquarius, reaching almost overhead, is Capricornus. Pegasus is now entirely above the north-eastern horizon, and just above the horizon is α of Andromeda. Near the horizon to the north is Cygnus, above and a little east is the Dolphin. Lyra is low down in the north, the bright blue star α being conspicuous. Aquila is half-way up toward the zenith; the constellation Sagittarius is just overhead in this quadrant. Ophiuchus is half-way towards the horizon, and Serpens straggles across Ophiuchus, his head being just above the north-western horizon. Next toward the north is Hercules standing on the horizon. Corona Australis is a little toward the west overhead, then Scorpio winds along more than half-way to the horizon, his tail now being uppermost; Libra is just below the head of Scorpio. The Centaur is almost on his back near the horizon, Lupus is above him towards the west. Ara is standing upright now, α Telescopium is above and toward the west. Below Ara is Triangulum, and Apus is a little to the left of Triangulum; below are Musca and Crux.

MAP VIII.

GRUS occupies the space overhead in the south-eastern quadrant; in fact, Grus and Piscis Australis are the only constellations just overhead in this map. Toucan is a little way down toward the south, then Octans and Chameleon. Low down on the horizon, and stretching toward the east, is part of Argo. Just on the south-eastern horizon a few stars of Columba are visible. Dorado and Reticulum are above; a little to the south is the larger Magellanic Cloud; above are Hydrus and the smaller Magellanic Cloud. The bright Achernar is a little to the east, and the rest of the constellation of Eridanus winds off towards the eastern horizon. Phœnix is a little east of Achernar.

In the next quadrant α Piscis Australis is next the zenith. Cetus straggles down nearly to the eastern horizon; near the north-eastern horizon is Triangula partly hidden, and above and a little east Aries. Pisces is above, and extends toward the east, then to the north-west between Aquarius and Pegasus. Andromeda is low down on the horizon, and extends towards the north. Above Andromeda and to the north is first Pegasus, then is Aquarius. Capricornus is the first constellation looking toward the north-west, and below are Delphinus and Aquila. Cygnus is low down, and the bright star Vega of the constellation Lyra is just on the horizon. Only two stars of Hercules are visible along the north-western horizon. Ophiuchus stretches along low down in the west. η the star that marks the tail of Serpens is above him. Sagittarius and Corona Australis are half-way up to the zenith in the west. Scorpio is standing on his head near the horizon; toward the south-west is Lupus. Centaurus is on his back with his feet up. Crux is just above the horizon, the longer axis pointing to the pole; above is Musca. Just above the bright fore-feet of the Centaur are Circinus and Triangulum. Toward the west are Ara, then Telescopium, and a little more south from Triangulum is Apus; above is Pavo, still very erect; then Indus.

THE SOUTHERN SKIES.

MAP VIII.—For JULY, AUGUST, and SEPTEMBER.

THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES :—

At 1 o'clock, morning, Aug. 7.	At 11 o'clock, night, Sept. 6.	At 9 o'clock, night, Oct. 7.
,, 12.30 ,, ,, Aug. 14.	,, 10.30 ,, ,, Sept. 14.	,, 8.30 ,, ,, Oct. 15.
,, Midnight, Aug. 22.	,, 10 ,, ,, Sept. 21.	,, 8 ,, ,, Oct. 22.
,, 11.30 o'clock, night, Aug. 29.	,, 9.30 ,, ,, Sept. 29.	,, 7.30 ,, ,, Oct. 30.

STAR MAGNITUDES

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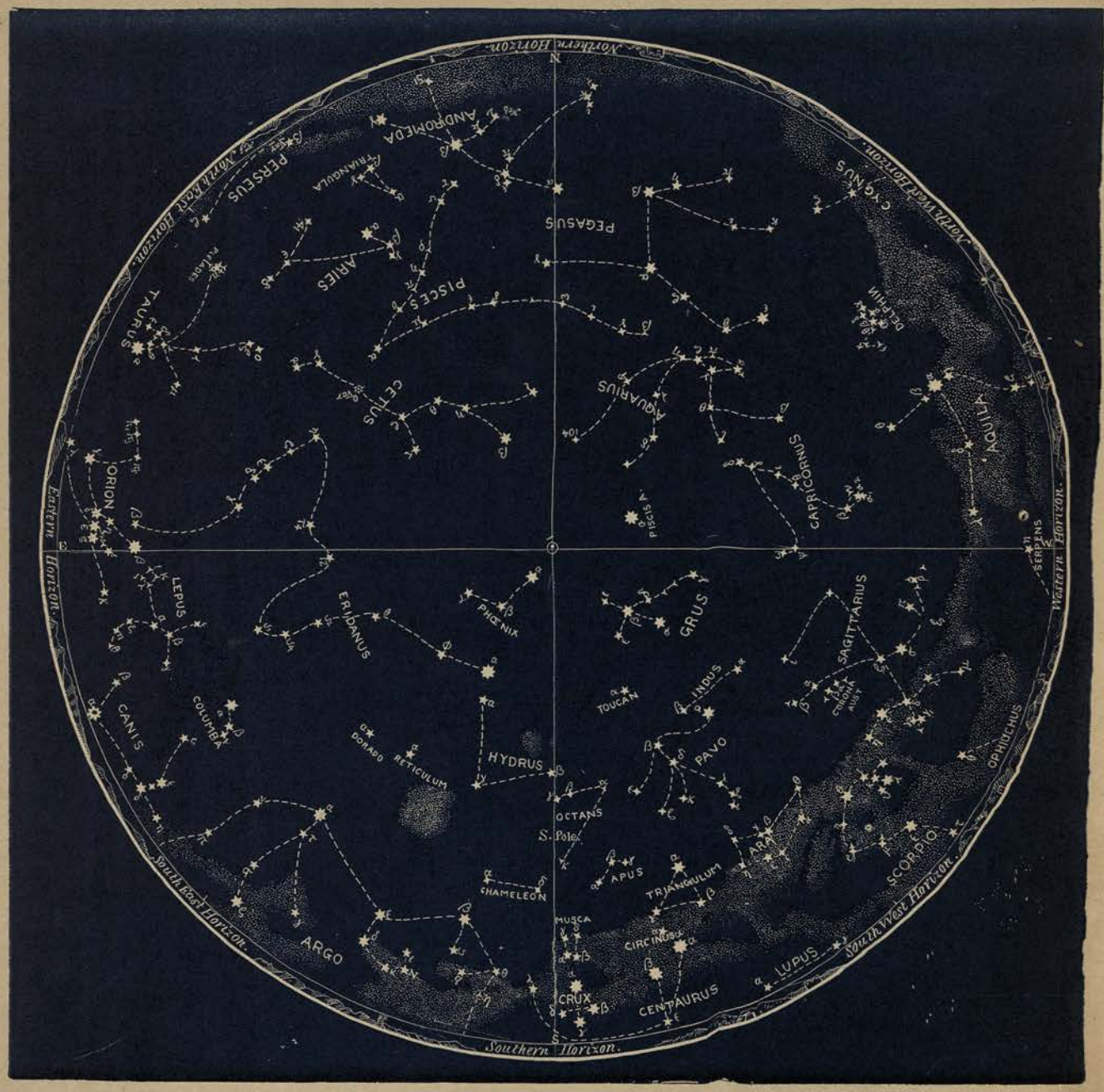
THE SOUTHERN SKIES.

MAP IX.—For AUGUST, SEPTEMBER, and OCTOBER.



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, Sept. 6.	At 11 o'clock, night, Oct. 7.	At 9 o'clock, night, Nov. 7.
,, 12.30 ,, ,, Sept. 14.	,, 10.30 ,, ,, Oct. 15.	,, 8.30 ,, ,, Nov. 14.
,, Midnight, Sept. 21.	,, 10 ,, ,, Oct. 22.	,, 8 ,, ,, Nov. 22.
,, 11.30 o'clock, night, Sept. 29.	,, 9.30 ,, ,, Oct. 30.	,, 7.30 ,, ,, Nov. 30.

STAR MAGNITUDES.

First ... ... Second ... .. Third ... ... Fourth ... ... Fifth ... ...

MAP IX.

α of the constellation Phœnix is almost overhead in the south-eastern quadrant; due south is the smaller Magellanic Cloud, Hydrus and Chameleon a little to the east, and Octans a little to the west; below are Musca and Crux—the cross is inverted, and the lower star is just above the horizon. Argo stretches along the horizon from the south toward the east, the bright stars α and β being high up. Canis Major is next along the horizon to the east, the bright star α (Sirius) being just above the horizon; Columba is above Canis, and Lepus is near the horizon to the east. Above Argo are the larger Magellanic Cloud, and Reticulum and Dorado. Eridanus winds around from the star Achernar, high up between Phœnix and Hydrus, nearly down to Lepus in the east, then to the west, then down to β, just above the rising Orion low down in the east. The three bright stars which mark the giant's belt are just above the horizon; farther east and low down is part of Taurus, the bright star Aldebaron shining just above the horizon, and toward the north-east are the Pleiades. Two stars of Perseus are just above the north-eastern horizon, above are Aries and Triangulum; Cetus winds around from above Taurus towards the north; Pisces is below Cetus; and low down in the north, and reaching toward the east, is Andromeda; Pegasus is above and toward the west. Low down near the horizon in this quadrant are two stars of Cygnus, and farther west Aquila; the constellation of the Dolphin is between them, but a little higher up, Aquarius is above, stretching up toward the zenith. α of Piscis Australis is high up, and then Capricornus lower down; and due west, low down near the western horizon, is η of Serpens; farther along the horizon toward the south is θ of Ophiuchus and part of Scorpio, the bright stars which mark his tail being near the head of Sagittarius, and above is Corona Australis. High up in this quadrant is Grus; a little below, toward the south, Toucan, then Indus and Pavo. Below Pavo is Ara, and towards the south Triangulum and Apus; below Triangulum is Circinus, and then the two bright stars α and β which mark the fore-feet of the Centaur. Very near the north-western horizon are two stars of Lupus.

It will be noticed that in this map the Milky way extends nearly all round the horizon from north-east through the north, west, and south, to a little beyond south-east. The very rich part is from the west to the south.

MAP X.

Low down near the southern horizon are α and β of the Centaur, above is Circinus; a little to the east is the Southern Cross, still inverted and low down; above is Musca the fly; Chameleon is still higher up. The large constellation of Argo is above the horizon now, and stretches out far to the east. Hydrus is due south, and the smaller Magellanic Cloud a little to the west, and the larger, more to the east; above the larger Magellanic Cloud is Reticulum, and east is Dorado. Eridanus winds athwart this part of the heavens near the zenith, and is high up in the next quadrant. Low down in the east is Canis, with Sirius shining brightly; above is Columba.

α and β of Canis Minor are just above the eastern horizon; farther along the horizon are three stars of Gemini; Orion is above, and a little to the east Lepus; to the north is Taurus. The Pleiades are very well seen above the Milky Way. Near the horizon is a part of Auriga and a part of Perseus.

Cetus, the sea monster, a little more than half-way up, looking to the north, ranges from west to east; below is Pisces, stretching off toward the west. Aries and Triangula are lower down in the north, and Andromeda is just above the horizon, and extends towards the west. Pegasus is above the north-western horizon, and much bowed over. Aquarius is a little higher up in the west.

Piscis Australis is half-way down, toward the west, and Capricornus is below. Corona Australis and part of Sagittarius are just above the horizon to the north-west, and a few stars of Scorpio are still visible on the horizon. Triangula is a little above, and Ara low down, toward the south; Triangulum is a little west of south, above is Apus, then Octans. To the west is the Peacock, not so proudly erect as before; then Indus; above is Toucan, and to the west is Grus; overhead is Phœnix.

THE SOUTHERN SKIES.

MAP X.—For SEPTEMBER, OCTOBER, and NOVEMBER.

THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

At 1 o'clock, morning, Oct. 7.	At 11 o'clock, night, Nov. 7.	At 9 o'clock, night, Dec. 7.
,, 12.30 ,, ,, Oct. 15.	,, 10.30 ,, ,, Nov. 14	,, 8.30 ,, ,, Dec. 15.
,, Midnight, Oct. 22.	,, 10 ,, ,, Nov. 22.	,, 8 ,, ,, Dec. 23.
,, 11.30 o'clock, night, Oct. 30.	,, 9.30 ,, ,, Nov. 30.	,, 7.30 ,, ,, Dec. 30.

STAR MAGNITUDES

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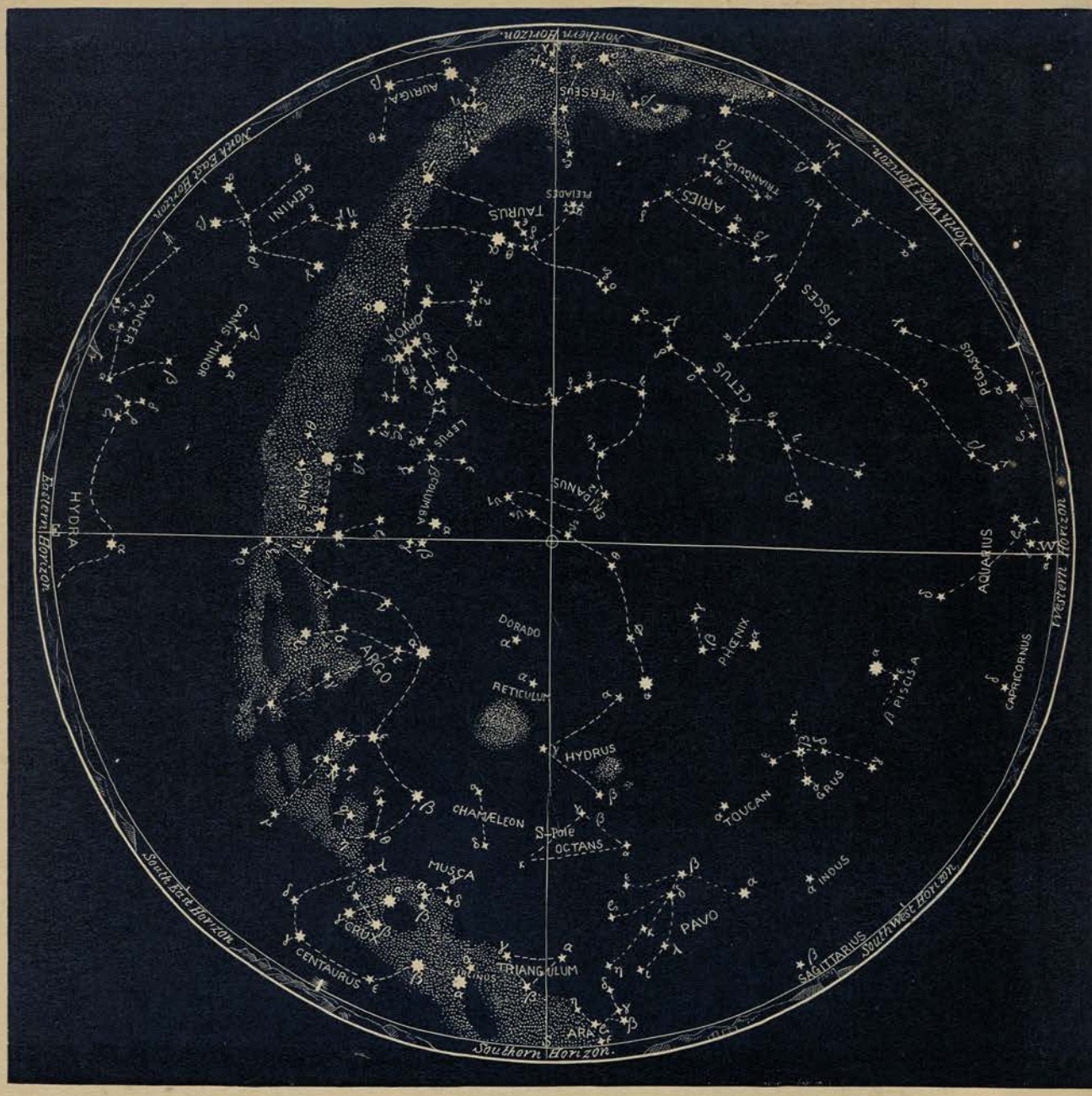
THE SOUTHERN SKIES.

MAP XI.—For OCTOBER, NOVEMBER, and DECEMBER.



THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES :—

At 1 o'clock, morning, Nov. 7.	At 11 o'clock, night, Dec. 7.	At 9 o'clock, night, Jan 7.
,, 12.30 ,, ,, Nov. 14.	,, 10.30 ,, ,, Dec. 15.	,, 8.30 ,, ,, Jan. 14.
,, Midnight, Nov. 22.	,, 10 ,, ,, Dec. 23.	,, 8 ,, ,, Jan. 22.
,, 11.30 o'clock, night, Nov. 30.	,, 9.30 ,, ,, Dec. 30.	,, 7.30 ,, ,, Jan. 30.

STAR MAGNITUDES.

First ... ... Second ... ... Third ... ... Fourth ... ... Fifth ... ..

MAP XI.

Looking to the south from the zenith, first we find α of Dorado, then α of Reticulum, and just below the larger Magellanic Cloud nearly at its highest elevation. Hydrus and the smaller Magellanic Cloud are a little below to the west, with Octans just below, and to the left Chameleon. Low down on the southern horizon is Triangulum, farther along the horizon to the east is Centaur on his back, with the bright stars of his fore-feet low down in the south, and the star which marks his hind-foot is just above Crux. Musca is a little above the Cross. Argo is high up now, and presents a splendid appearance, reaching from the hind-foot of the Centaur to the east. There are no stars near the horizon until, due east, low down, Hydra begins to appear, his head a little to the north, just above Cancer, which is partly above the horizon. Canis Minor is above with the bright star Procyon; Gemini is low down on the horizon; Castor and Pollux being just visible. To the east from the point overhead is first Columba, then Canis Major with Sirius shining brightly high up; to the left is the giant Orion getting more erect and giant-like; Lepus is just above him, Taurus is below toward the north, the Pleiades are due north, and Perseus is on the northern horizon. Eridanus is overhead; he begins near the bright star Rigel in the shoulder of Orion, goes off to the west, then to the zenith, then to the south-west, where Achernar is shining between Phœnix and Hydrus.

Cetus ranges across the north-western quadrant, half-way up to the zenith from north to west; below is Pisces. Aries and Triangula are to the north of Pisces, and below, part of Andromeda, and farther west part of Pegasus.

Low down on the western horizon is part of Aquarius; a little to the south is one star of Capricornus. Piscis Australis is above, α being the brightest star in this part of the skies now; Grus is next to the left, then Toucan; β of Sagittarius is just on the horizon, and α of Indus above. Low down on the southern horizon is part of Ara; Pavo is above, almost on his back.

MAP XII.

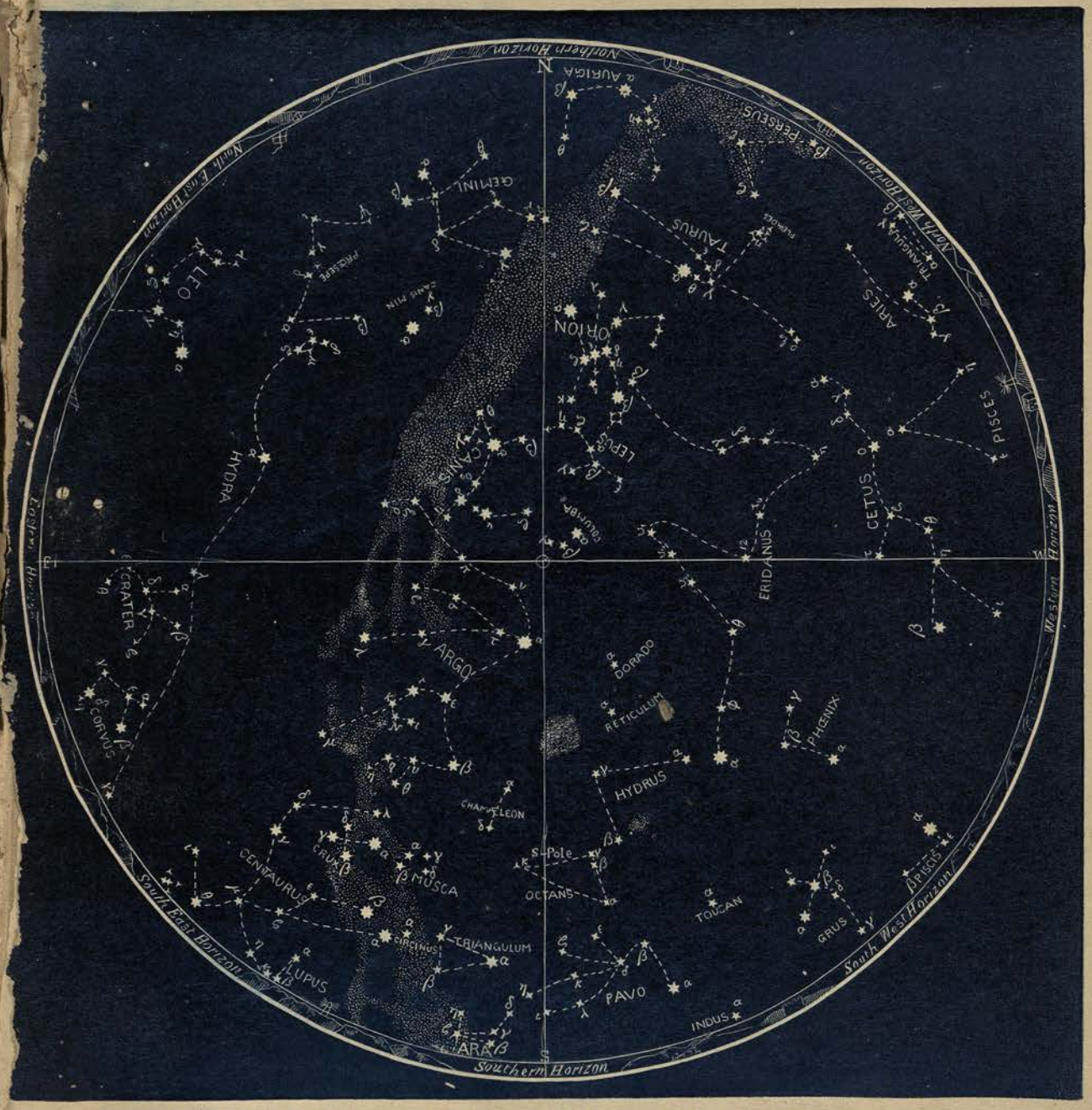
In the south-eastern quadrant, Argo is overhead, extending to the south-east; below toward the south is Chameleon, then Octans, and Triangulum is a little to the east; part of Ara is low down on the horizon. Just above the southern horizon, and extending to the right, is Pavo, the Peacock, on his back; near the south-eastern horizon is Lupus; then Centaurus almost entirely above the horizon, the small stars which mark his head are just on the horizon. Crux is above, the longer axis being almost at the same altitude as the South Pole. Musca is just to the right of Crux. Near the eastern horizon are first Corvus, then Crater due east. Hydra wanders off toward the north to Cancer. Low down on the horizon is part of Leo. Looking to the north, and a little to the east, is Gemini, the Twins, presenting very much the appearance they did in Map I., with their "heels highest." Canis Minor is above. Canis Major, with part of Argo, occupies the sky overhead in this quadrant.

Columba is just overhead in the north-western quadrant; a little below to the north is Lepus; Orion now quite erect, and presents a splendid appearance. Taurus and the Pleiades are below and a little to the left. Auriga is low down on the northern horizon, and Perseus is on the horizon to the left. Just above the north-western horizon is Triangula, and above is Aries; farther to the west is part of Pisces, forming a triangle; above is Cetus. Eridanus wanders across the sky about half-way between the horizon and just overhead.

Low down on the south-western horizon is part of Pisces Australis, then Grus extending upwards. α of Indus is just on the horizon farther south, and higher up is Toucan; above and a little to the west is the smaller Magellanic Cloud, then Hydrus; Phœnix is to the west of Hydrus. The larger Magellanic Cloud is almost due south; a little to the west is Reticulum, and above is Dorado.

THE SOUTHERN SKIES.

MAP XII.—For NOVEMBER, DECEMBER, and JANUARY.

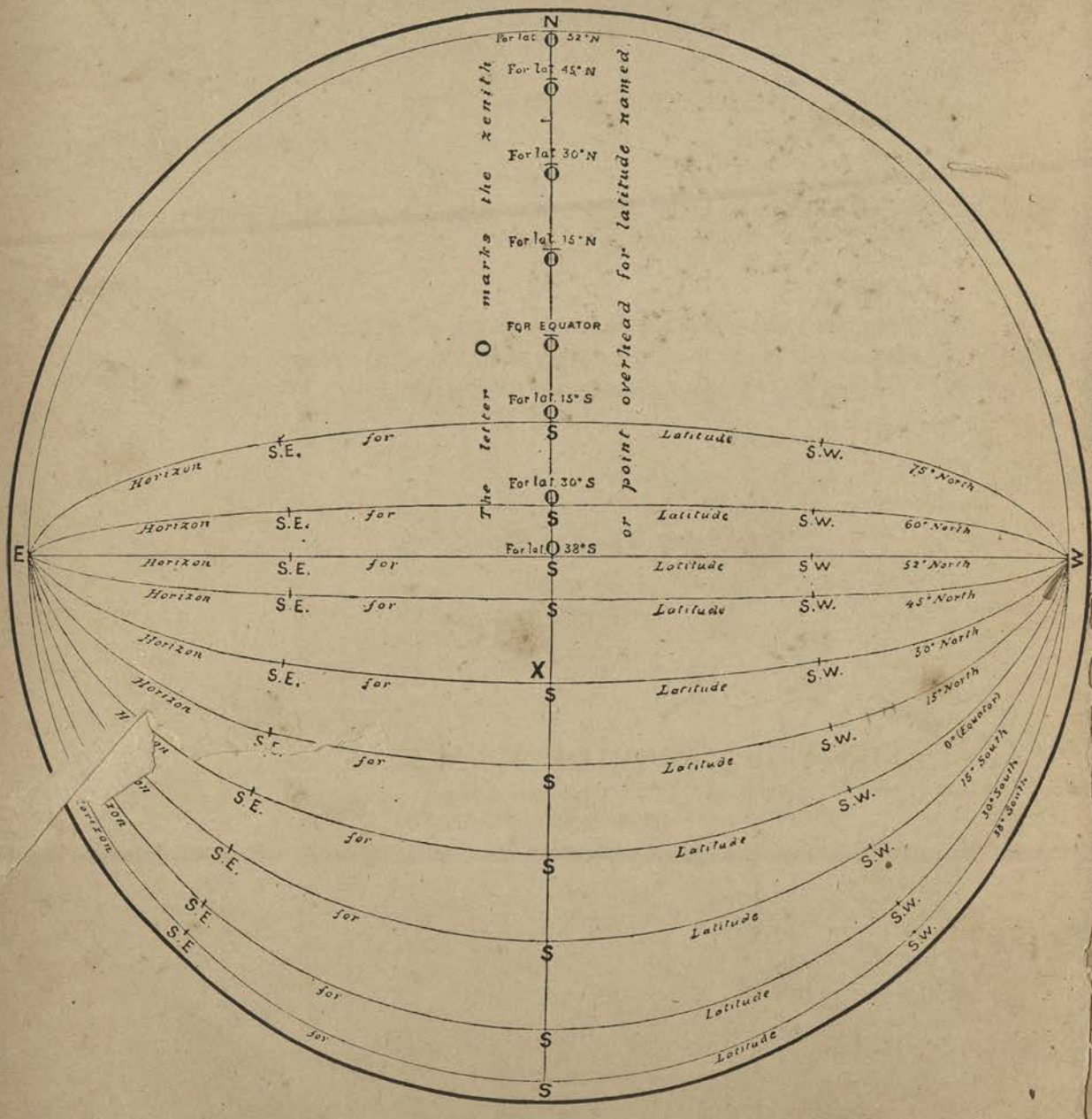


THE NIGHT SKIES IN THE SOUTHERN HEMISPHERE (LAT. 46° TO 24° S.) AT THE FOLLOWING TIMES:—

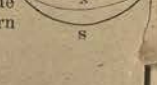
At 1 o'clock, morning, Dec. 7.	At 11 o'clock, night, Jan. 7.	At 9 o'clock, night, Feb. 7.
,, 12.30 ,, ,, Dec. 14.	,, 10.30 ,, ,, Jan. 15.	,, 8.30 ,, ,, Feb. 14.
,, Midnight, Dec. 22.	,, 10 ,, ,, Jan. 23.	,, 8 ,, ,, Feb. 22.
,, 11.30 o'clock, night, Dec. 30.	,, 9.30 ,, ,, Jan. 30.	,, 7.30 ,, ,, Mar. 1.

STAR MAGNITUDES.

First ... .. ✱ Second ... ... ✲ Third ... ... ★ Fourth ... ... ✦ Fifth . .. ▲



This diagram indicates the position of the southern horizon (from east through south to west) among the stars as shown in these maps, for all latitudes from 75° N. to 40° S. Thus, if a piece of paper is cut out of the shape E S W X and applied to any map of this series, the boundary E X W will show the position of the southern horizon in latitude 30° north at the hours and seasons mentioned under that map. This makes the maps available, so far as the southern skies (always the most interesting) are concerned, *for all parts of the habitable world*.—R. P.



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